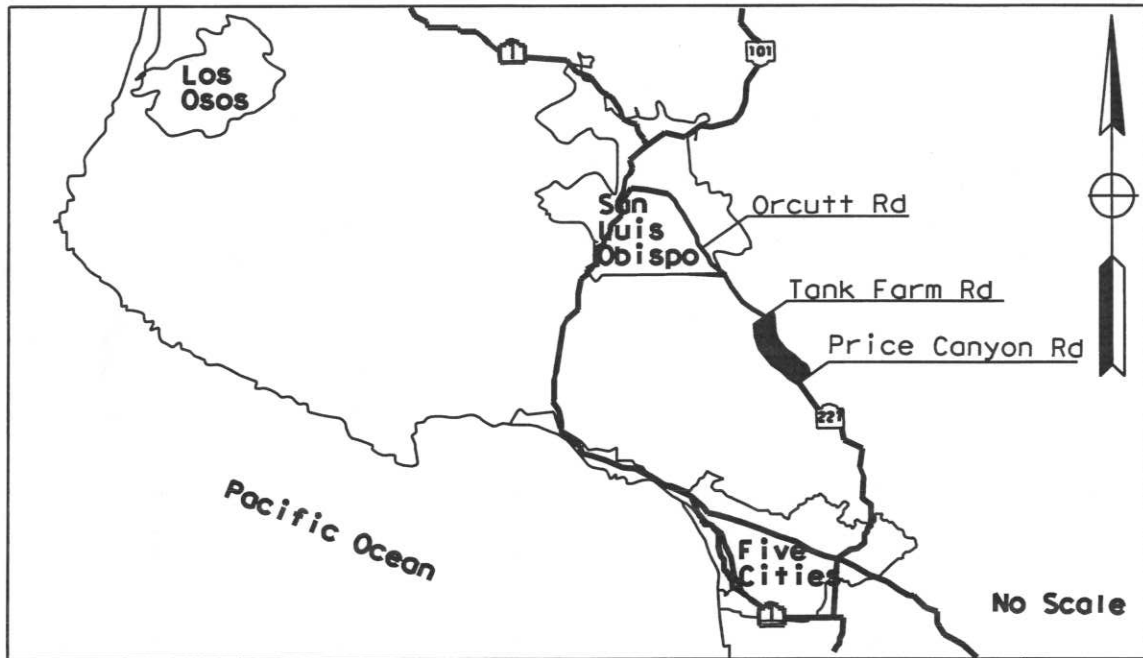


## PROJECT STUDY REPORT (Project Development Support)

This document can be used to program only the Engineering and Environmental Support for Project Approval and Environmental Document component. The remaining support and capital components of the project are preliminary estimates and are not suitable for programming purposes. Either a Supplement PSR or a Project Report will serve as the programming document for the remaining support and capital components of the project.



On Route 227 in San Luis Obispo County,  
From Price Canyon Road at Edna KP R11.46 (PM R7.12)  
To Tank Farm Road in San Luis Obispo KP R17.79 (PM R11.06)

APPROVAL RECOMMENDED:

AMY DONATELLO  
PROJECT MANAGER

APPROVED BY:

R. GREGG ALBRIGHT  
DISTRICT DIRECTOR - DISTRICT 5

1/6/06  
DATE

PROJECT SCOPE & TECHNICAL DATA VALID THROUGH

1/6/09  
DATE

COST AND WORK PLAN MUST BE UPDATED PRIOR TO USE FOR PROGRAMMING

05-SLO-227-KP R11.5/R17.8 (PM R7.1/R11.1)

06-250-0J450K

075.600

This Project Study Report (Project Development Support) has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions and decisions are based.

  
REGISTERED CIVIL ENGINEER

12/6/05  
DATE



## **1. Introduction**

This project on Route 227 between Price Canyon Road near Edna KP R11.5 (PM R7.1) and Tank Farm Road in San Luis Obispo KP R17.8 (PM R11.1), proposes to widen the current two-lane conventional highway to a four-lane conventional highway. Also, the project will provide Class I-III bike lanes where appropriate, standard shoulders and signalization of intersections where warranted. Other safety improvements include provision for signs, guardrails and upgrading drainage by extending culverts and constructing curb and gutters. There are three bridges within the project limits, of which the West Corral de Piedra Creek Bridge and the North Edna Overhead will be widened to accommodate the proposed roadway widening. The East Fork San Luis Obispo Creek Bridge has adequate width. Two alternatives have been considered, the ultimate "Build" alternative and the No Build Alternative. The current preliminary estimated cost ranges from \$28,000,000 to \$35,000,000.

This project is included in the Regional Transportation Plan (RTP) and the San Luis Obispo Council of Governments (SLOCOG) proposes to submit it as a candidate for the 2006 State Transportation Improvement Program (STIP), to be programmed for PA&ED support costs. This Project Initiation Document (PID) is designated as a Project Study Report (Project Development Support). Future support and capital costs would be programmed in subsequent STIP documents.

The project is classified as Category 4A since it will require substantial right of way and increase traffic capacity.

## **2. Background**

The stretch of State Route 227 from Price Canyon Road KP R11.5 (PM R7.1) to South Street KP R20.5 (PM R12.7) is classified as both a Rural Minor Arterial and Urban Principal Arterial. It meets a variety of needs as it winds through a diverse landscape. The road is a two-lane highway as it passes through the rural portions of San Luis Obispo County. Through the city of San Luis Obispo, however, State Route 227 becomes a high-volume, multi-modal, four-lane urban highway. The posted speed is constant within the project limits. The posted speed limit is 85.5 kph (55 mph) from Price Canyon KP R11.46 (PM R7.12) to Tank Farm Road KP R17.80 (PM R11.06), then reduces to 64.4 kph (40 mph) at KP R19.20 (PM R11.93) near Orcutt Road. Land use also varies along this segment of the highway. They include open space, recreation, agriculture, suburban to medium-density residential, business park, services and manufacturing, and an expanding regional airport. State Route 227 links all these together. The California Department of Transportation completed a Route Concept Report (RCR) in 1999 in cooperation with the Regional Transportation Planning Agency, SLOCOG. The Report found that the primary purpose of the route is to serve local and commute traffic within San Luis Obispo and between San Luis Obispo and the Five Cities area. The Five Cities are comprised of Pismo Beach, Shell Beach, Arroyo Grande, Grover Beach and Oceano.

The SLOCOG considers State Route 227 as a regionally significant route. Currently the Level of Service (LOS) is E - indicating congested driving conditions during the peak hour. The report indicates that the “ultimate concept” for the route involves the roadway within the City limits being relinquished to the local jurisdiction, although no timeframe has been set so far. The RCR provides for a four-lane roadway from Price Canyon Road north to the intersection with Higuera Street KP R22.1 (PM R13.7). Four lanes already exist from Tank Farm Road to Higuera Street. By 2015, the roadway is projected to deteriorate to a LOS “E” from Price Canyon Road to Buckley Road KP R15.8 (PM R9.82), and a LOS “F” from Buckley Road to Higuera Street, if no improvements are made.

By the late 1990s, it became apparent that both local and regional land use decisions were affecting this corridor. In late 2000, a public/private task force was formed to address this issue. The group’s aim was to create a comprehensive and strategic plan for corridor improvement, rather than relying on piecemeal or “band-aid” fixes to change conditions along the route. The study limits ran from Price Canyon Road to Orcutt Road KP R19.4 (PM R12.0). The 2002 Route 227 Corridor Study was the result of the task force’s efforts. In completing the study, the task force members acknowledged that some development and expansion would continue along the route because many projects had already been approved or were in the late stages of planning. The study recommended various improvements along the route, such as potential locations for signals, median breaks, landscaped medians and left-turn channelizations, while acknowledging the need for further safety and traffic analysis.

In 2001, the intersection of State Route 227 and Buckley Road was improved by the County and Caltrans. A traffic signal and channelization were added and Buckley Road was slightly realigned with Route 227. Caltrans and County staff had noted that traffic volumes on Route 227 were high and that, without a new signal, local traffic would have difficulties getting onto the highway.

While the principal purpose, within the limits of this project, is to relieve congestion either through enhancing operations or increasing capacity in order to improve traffic flow along the route, the installation of context-sensitive beautification components will be pursued where appropriate. Four distinct segments of Route 227 corridor from Price Canyon to Orcutt have been identified as having specific needs.

From south to north, these segments are:

Segment 1: Price Canyon Road to Los Ranchos Road

Segment 2: Los Ranchos Road to Tank Farm Road

Segment 3: Tank Farm Road to Orcutt Road

Segment 4: Orcutt Road to South Street



The remainder of this topic will focus on Segments 1 and 2 which are within the project limits in order to provide a better understanding of that segment and to provide logical points of project phasing and programming.

### **3. Need and Purpose**

#### **Project Need:**

Increasing traffic is causing escalations in congestion and safety concerns, which need to be addressed by this STIP candidate project. These issues are discussed below:

Segment 1, from Price Canyon Road to Los Ranchos Road, is expected to experience future congestion (LOS F in 2035) if capacity is not increased. Congestion will result mainly from the increasing number of commuters diverting from US 101, new employment in the Airport area/Broad Street Corridor, and the shorter route to the new development in Nipomo and South County afforded by the Price Canyon/SR227 connection. During the peak afternoon commute hours, traffic is currently split at 73% southbound and 27% northbound, whereas in 2025 a traffic split of 54% southbound and 46% northbound is projected. The total peak afternoon traffic volume is projected to increase approximately 274% (1194 vehicles currently to 3275 vehicles in 2025).

Segment 2, from Los Ranchos Road to Tank Farm Road, is congested during peak hours and lacks alternative mode choice facilities. Some side street intersections are offset. Locally-approved projects would add traffic directly onto the highway within this segment. The regional airport and industrial park subdivisions are designing their onsite internal circulation elements to facilitate a consolidated signalized ingress/egress onto Route 227. In 2025, 9.2% of southbound traffic is projected to divert from Route 227 onto Los Ranchos Road when local commute traffic separates from regional commuters. The existing diversion is 18.6%. Congestion will worsen as the total afternoon peak hour traffic volume is projected to increase approximately 79.8% (from 1671 vehicles in year 2000 to 3005 vehicles in 2025).

The Level of Service analysis for the PSR (PDS) shows Route 227 will require widening from a two-lane conventional highway to a four-lane conventional highway to accommodate the projected Year 2035 traffic volumes.

The table below shows current and projected volume/capacity ratio and LOS for the 20-year design period.

Table 1: Existing and Future Roadway Segments Level of Service

Segment	Year 2002 2-Lane V/C	Year 2002 2-Lane LOS	Year 2035 2-Lane V/C	Year 2035 2-Lane LOS	Year 2035 4-Lane Density (pc/mi/ln)	Year 2035 4-Lane LOS
SR 227: From Corbett Canyon Road to Price Canyon Road	0.21	C	0.32	D	NA	NA
Price Canyon Road: From SR 227 to Hwy 101	0.26	C	0.40	D	NA	NA
SR 227: From Price Canyon Road to Los Ranchos Road	0.49	E	0.74	F	15.6	B
SR 227: From Los Ranchos Road to Tank Farm Road	0.60	E	0.91	F	18.7	C

**Traffic Data**

Year	2003	2015	2025	2035
DHV	1,975	2,406	2,839	3,353
AADT	13,450	16,052	18,621	21,620

ADT Growth Rate: 1.8%

The three-year collision rate from October 1, 2000 to September 30, 2003 is

Location	Actual			Average		
	FAT	F+I	Total	FAT	F+I	Total
SLO 227	0.00	0.43	1.00	0.036	0.66	1.42

(Rates are given as "Collisions per million vehicle miles")

**Project Purpose:**

The main purpose of the project is to relieve congestion either through operational improvements or increased capacity and accommodate existing and future transportation needs along the Route 227 Transportation Corridor between Price Canyon Road and Tank Farm Road. It will also provide additional benefits such as:

- Enhance safety and improve its role as an evacuation route in the San Luis Obispo Counties/Cities Nuclear Power Plant Emergency Response Plan.
- Improve access to the area's only regional airport.

#### **4. Alternatives**

Concurrence by the Project Development Coordinator for further study of the viable alternatives included in this PSR(PDS) does not constitute approval of any non-standard features identified currently or in the future. Separate documentation and approval will be required as per Chapter 21 of the PDPM.

Two alternatives have been considered, namely: Alternative 1 (Ultimate "Build"), and Alternative 2 (No-build). There were no Minimum Build options identified by the project development team, that would satisfy the project's need and purpose.

##### **Alternative 1: Ultimate Build Alternative**

Alternative 1 proposes to widen Route 227 from two lanes to four lanes from Price Canyon Road to Tank Farm Road, but will be divided into two segments that will be prioritized for funding. This alternative will provide a two-way left-turn lane or left-turn channelization where appropriate, widen shoulders and construct Class II bike lanes. In addition, this alternative would require the widening of two existing bridges - the West Corral de Piedra Creek Bridge (Br No 49-204) and the North Edna Overhead (Br No 49-220). There are no non-standard features proposed by this project.

The widening at the North Edna Overhead will involve coordination with the Union Pacific Railroad. There are also environmental constraints that need to be addressed including one stream with a well-developed wetland, West Corral de Piedras Creek and cultural resources associated with the De Anza trail and the townsite of Edna. This portion of State Route 227 is a gateway corridor and there is the need to visually transition by unifying the rural and urban characters of the corridor. Community involvement is anticipated, and context sensitive treatments such as the maintenance of viewsheds, landscaping and gateways will be incorporated as needed. Traffic signals will be provided, but the exact locations have not yet been finalized. ADA requirements will be implemented in this project.

There are signalizations and other improvements being done by others outside of this project. For example, the Airport is currently working on a plan to signalize the intersection of State Route 227 and Aero Road, and the City of San Luis Obispo is working on a plan to connect Prado Road, the exact location yet to be determined.

The SR 227 Task Force has recommended a landscaped median between Tank Farm Road and Aero Drive. An in-depth traffic operations analysis will be required to determine the location of two-way left-turn lanes or left-turn channelization, and median openings. Also, the SR 227 Task Force has recommended a gateway and beautification theme to visually unify and urbanize the corridor from just south of the airport to the city's highly urbanized area to the north.

At this early Project Development stage, the Materials Branch has determined that a deflection study to determine the asphalt concrete overlay thickness of the existing pavement is not necessary. However, a thickness of 135 mm has been assumed for estimation purposes. The District will also consider the use of Rubberized Asphalt Concrete (RAC) as the preferred rehabilitation strategy during the project report stage.

The estimated cost for this alternative varies from \$28M (\$19,290,000 Roadway, \$2,710,000 Structures, and \$5,018,000 Right of Way/Utilities) to \$35M, however this alternative can also be done by prioritizing funding and executing in two phases. Phase 1 would be from Los Ranchos Road to Tank Farm Road, and Phase 2 would be from Price Canyon Road to Los Ranchos Road. Operationally, this widening will improve the Level of Service to B.

#### **Phase 1**

From Los Ranchos Road to Tank Farm Road at a cost varying from \$13M (\$9,630,000 Roadway, \$0.0 Structures, and \$2,509,000 Right of Way/Utilities) to \$18M.

#### **Phase 2**

From Price Canyon Road to Los Ranchos Road at a cost varying from \$15M (\$9,670,000 Roadway, \$2,760,000 Structures, and \$2,509,000 Right of Way/Utilities) to \$20M.

#### **Alternative 2: No-Build Alternative**

With the No-build alternative, traffic operations on the route segment would continue to deteriorate. The existing LOS is "E" on Route 227, from Price Canyon Road to Tank Farm Road, and the projected LOS for Year 2035 would be "F".

### **5. System and Regional Planning**

The Route Concept Report/Transportation Concept Report (RCR/TCR) was prepared for Route 227 in San Luis Obispo County in July 1999. The TCR is the foundation of the system planning process. It analyzes a route from the beginning to the end of the established District boundaries and gives a vision of how the entire route could perform, and what the physical facility might look like in the next twenty years. In the TCR, the current corridor study lies within Analysis Segments 3 (Tank Farm Road to Orcutt

Road) and 4 (Orcutt Road to South Street). The TCR identifies the traffic concept for Segments 3 and 4 as LOS C and LOS B/C respectively. These LOS values are for the entire mainline segment, not particular intersections.

### **Description of Route 227**

Route 227 provides the only ground access to the San Luis Obispo County Airport from the north and south. It serves local and commute traffic between the City of San Luis Obispo, Edna Valley, and the Five Cities area. Major traffic generators along Route 227 include businesses in southern City of San Luis Obispo and City of Arroyo Grande, Price Canyon Road, Oak Park Road, and Corbett Canyon Road. Portions of Route 227 parallel both Route 101 and Orcutt Road. The portion of the route through the Village of Arroyo Grande serves seasonal recreational traffic en route to Lopez Lake.

Functionally, the two-lane portion of Route 227 from Route 101 to Printz Road in Arroyo Grande is classified as an Urban Other Principal Arterial. From Printz to Buckley Road, Route 227 is classified as a Rural Minor Arterial, and the two and four-lane portion from Buckley Road to the Madonna Road Interchange in San Luis Obispo is classified as an Urban Other Principal Arterial. The route is eligible for Scenic Highway designation through portions of Arroyo Grande and San Luis Obispo.

SR 227 is not on the Interregional Road System (IRRS). It is identified as an Evacuation Route in the San Luis Obispo Counties/Cities Nuclear Power Plant Emergency Response Plan (August 1994). Access to Route 227 is presently unrestricted since it is classified as a Conventional Highway.

Route 227 is not part of the National Highway System (NHS). Also, Route 227 is not classified as a SHELL (State Highway Extra Legal Load) or STAA (Surface Transportation Assistance Act) Route. Planning and funding activities for capacity improvements will be primarily the responsibility of SLOCOG.

The 2002 Route 227 Corridor Study, finalized by the Route 227 Task Force, serves as a consensus on future vision for the corridor. SLOCOG and the County of San Luis Obispo have been part of the task force and thus the project meets the TCR recommendation that requires consultation with SLOCOG and the County regarding potential improvements. Since Caltrans has also been part of the SR 277 task force, the recommendations of the Long Range Operations Plan have been considered.

### **6. Environmental Determination and Environmental Issues**

The anticipated environmental document for the proposed project is a Negative Declaration (ND)/ Finding of No Significant Impact (FONSI). The Federal Highways Administration and the California Department of Transportation would act as lead agencies in the preparation of a joint CEQA/NEPA (California

Environmental Quality Act/National Environmental Policy Act) environmental document. The final environmental document is projected to occur within 36 months from the start of environmental studies.

The environmental issues are discussed in the Preliminary Environmental Analysis Report (Attachment E), and a brief summary is hereby provided.

**Community Effects** Community involvement would be encouraged to receive feedback on visual design preferences.

**Visual Effects** This project has the potential to impact visual resources, hence a Scenic Resource Evaluation and a Visual Impact Assessment would be required.

**Water Quality and Erosion** The project is located within the San Luis Obispo Creek and Pismo Creek watersheds in the Estero Bay Hydrologic Unit. The Central Coast Regional Water Quality Control Board will enforce water quality requirement for water bodies that intersect the project, including San Luis Obispo and West Corral De Piedra Creeks. Since more than one acre of soil disturbance would occur as part of the proposed project, a Notice of Construction shall be submitted to the Regional Water Quality Control Board at least 30 days prior to the start of construction. A Storm Water Pollution Prevention Plan (SWPPP) would also be required from the Contractor. The SWPPP would describe the Contractor's plans for preventing untreated storm water runoff from leaving the construction site, and would incorporate Best Management Practices for preventing temporary and long-term erosion in the project area.

**Air and Noise.** According to 40 CFR 93.127, this project would not be exempt from regional emissions analysis. A Hot Spot Analysis Analysis for carbon monoxide would not be required on this project because the project is located in an attainment area and does not propose any new intersections. However, a qualitative analysis is necessary in order to determine the project's potential to increase long-term and short-term PM10 emissions since according to State standards, the air basin is categorized as non-attainment.

According to Caltrans Traffic Noise Protocol and NEPA, this project qualifies as a Type 1 project, hence a traffic noise analysis is needed. The project would require study of several receptors and surrounding land uses to determine the potential impacts from traffic noise. There are two locations currently identified requiring further analysis: At PM 8.0 there is the potential for noise abatement measures for an elementary school and several nearby homes. And PM 11.0 near Buckley Road, includes a community airfield and a California Department of Forestry Fire Station where Federal Aviation Administration regulations may apply.

**Cultural Resources** There is one known Prehistoric Archaeological Resource and approximately 20 Architectural Resources that would require evaluation within the Area



of Potential Effect. A Phase I and an Historic Architectural Survey Report would be prepared and presented to the State Historic Preservation Officer and the Federal Highway Administration for concurrence.

**Native American Coordination** The Native American Community would need to be consulted during the life of the project.

**Hazardous Waste/Materials** There would be the potential for encountering hazardous waste/material within the project limits, including several open and closed leaking underground storage tanks. Further investigation would be required to determine the status. A visual inspection of the West Corral De Piedra Bridge showed signs of possible asbestos-containing material on the bridge railing shims and would require further investigation. Also, heavy metal and hydrocarbon studies would be required adjacent to the existing railroad under the North Edna Overhead. An Aerially Deposited Lead study is required and a Naturally occurring Asbestos (NOA) study is highly recommended.

**Biological Resources** There are 8 drainageways within the project limits that have the potential to contain wildlife habitat and would require study. Also, East Canyon de Piedra Creek through a bridge/box culvert would need to be considered if the project starts 450 meters south of the Price Canyon Road intersection. Surveys for plants, frogs, steelhead, turtles, and Tiger Salamander would be required. Formal Consultation with the United States Fish and Wildlife Service would be anticipated.

**Mitigation** Estimated mitigation cost for Biological Resources is up to 3.64 hectares (9.0 acres), and \$400,000. Estimated mitigation cost for Landscape Architecture is up to \$1,000,000.

**Permits** Permits from the State Department of Fish and Game (1601), U. S. Army Corps of Engineers 404 Nationwide Permit, and the Regional Water Quality Control Board (401) would be required.

## **7. Right of Way**

The right of way impacts have been evaluated for Alternative #1. The escalated Right of Way cost estimate totals \$5.1 Million (including utilities) with 2.8 hectares of parcels affected. The estimate includes \$ 25,000 for pos-locs, money for adjusting utility lid covers to grade, and relocating some utility poles. It may be necessary to acquire easements for the utility companies. The easements will only be known once the utilities are verified and plotted on layout plans. A summary of the right of way issues is in the Right of Way Data Sheet (Attachment D).



**8. Funding/Scheduling**

This project is proposed for programming through PA&ED as part of the 2006 State Transportation Improvement Program (STIP). The funding will most likely be Regional Improvement Program (RIP) dollars from the RTIP.

**Capital Outlay Support Estimate for PA&ED**

Fiscal Year	STIP PY's / \$'s		Other Funding Sources PY's / \$'s	
	PY's	\$'s	PY's	\$'s
06/07	1.6	234		
07/08	2.0	295		
08/09	2.0	299		
09/10	1.7	250		
Future	0.6	89		
Total Support Cost	7.9	1,167		

- Note:** (1) All costs X \$1,000. Construction Capital are escalated at 3.0 % per year and Support Costs are escalated at 2.0 % per year. The Right of Way Capital Costs are escalated at 5% per year.
- (2) Support categories are the same as those identified by SB 45

**Capital Outlay Estimate**

	Range for Total Cost	STIP Funds	Fund Source "A"
Alternative 1	\$28M-\$35M		
Alternative 2 (No-build)	\$0		

The level of detail available to develop these capital cost estimates is only accurate to within the above ranges and are useful for long-range planning purposes only. The capital costs should not be used to program or commit capital funds. The Project Report will serve as the appropriate document from which the remaining support and capital components of the project will be programmed.

The tentative milestone schedule is listed below.

<b>Milestone</b>	<b>Target date</b>
Approved PSR/PDS	Nov 1, 2005
Begin Project Report	July 2006
Approved PA&ED	July 2010
District PS&E	July 2014
Ready To List	December 2014
Approved Construction Contract	March 2015
Construction Completion	July 2018

Only the "PA&ED" milestone is to be used for programming commitments. All other milestones are used to indicate relative time frames for planning purposes.

### **9. Programming Recommendation**

It is recommended that the PA&ED support components be programmed in the 2006 STIP. The project alternative identified in this project is to be studied further in the PA&ED phase without precluding any revisions or other alternatives that may be added as more information becomes available.

A Risk Management Plan (RMP) was prepared to assess, respond and monitor identified project risks that may occur throughout the life of the project, (See Attachment I). The RMP is designed as a tool to help the Project Management Team and Project Sponsor in their decisions regarding project alternatives and objectives, and encourages the project team to take appropriate measures to minimize adverse impacts to the project scope, schedule or cost. However, the Risk Management Plan cannot identify all risks in advance of occurrence for a project where some risks are unknown.

### **10. District Contact**

Amy Donatello	Project Manager	(805)549-3398	CALNET 629-3398
Arthur Ramirez	Design Manager	(559)243-3527	CALNET 425-3527
Joseph Quarshie	Project Engineer	(559)243-3531	CALNET 425-3531
Paul McClintic	Traffic Operations	(805)549-3473	CALNET 629-3473
Larry Newland	Environmental	(805)542-4603	CALNET 629-4603
Tom Fisher	Hydraulics	(559)243-3498	CALNET 425-3498
Rich Krumholz	Transp. Planning	(805)549-3161	CALNET 629-3161

**11. List of Attachments**

Attachment A.....Title Sheet

Attachment B.....Typical Cross Section (X1), (X2), (X3),  
(X4 - West Corral de Piedra Creek Bridge),  
(X5 North Edna Overhead)

Attachment C..... 3-Page Cost Estimate

Attachment D..... Right of Way Data Sheet

Attachment E..... Preliminary Environmental Analysis Report (PEAR)

Attachment F.....PDS Design Scoping Checklist

Attachment G.....Traffic Forecasting, Analysis, and Operations Scoping  
Checklist

Attachment H.....Storm Water Data Report

Attachment I.....Risk Management Plan

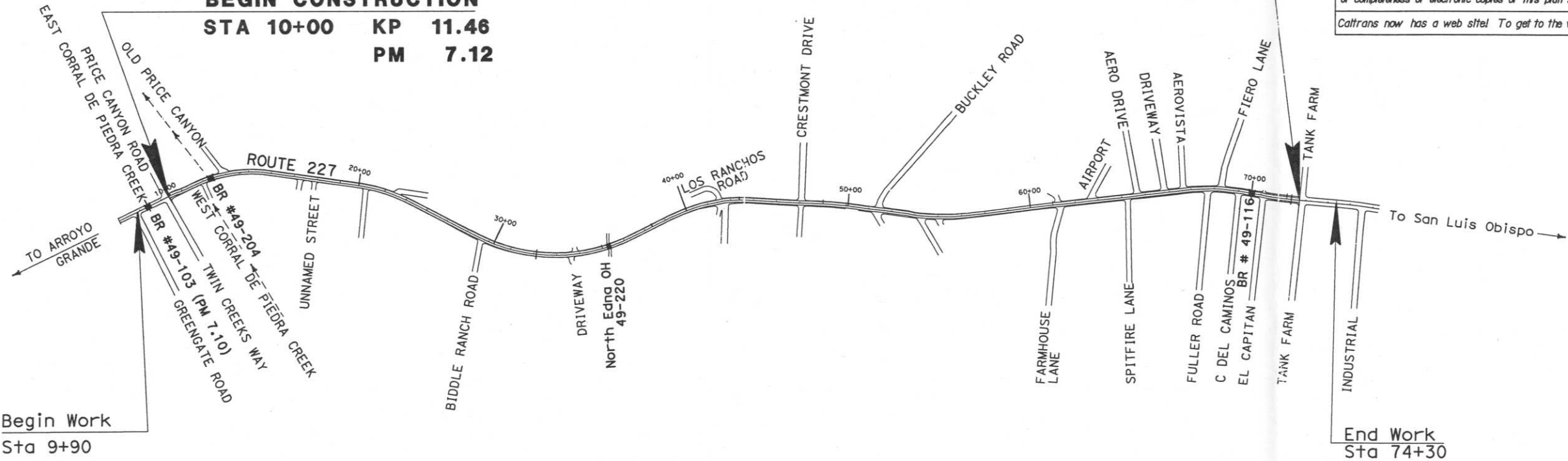
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY  
IN SAN LUIS OBISPO COUNTY  
FROM PRICE CANYON ROAD, SOUTH OF WEST  
CORRAL DE PIEDRA CREEK AT EDNA  
TO TANK FARM ROAD IN SAN LUIS OBISPO

To be supplemented by Standard Plans dated July, 2004 +



END CONSTRUCTION  
STA 73+30 KP 17.79  
PM 11.06

BEGIN CONSTRUCTION  
STA 10+00 KP 11.46  
PM 7.12



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
5	SLO	227	11.46/17.79		



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PROJECT ENGINEER	DATE	PROJECT MANAGER	DATE
QUARSHIE		DONATELLO	

The Contractor shall possess the Class (or Classes) of license as specified in the "Notice to Contractors".

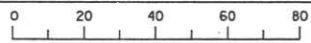
Project Engineer Date  
Registered Civil Engineer

Plans Approval Date



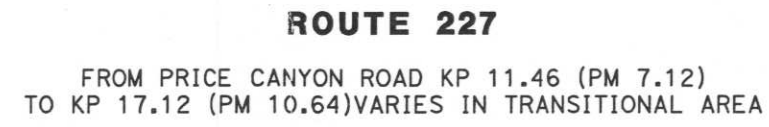
Attachment A

Contract No.





**Caltrans**  
**Metric**



**X-1**

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09-26-05	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
Caltrans PROJECT DEVELOPMENT  
PROJECT ENGINEER  
J. QUARSHIE  
CHECKED BY  
CALCULATED/DESIGNED BY  
DATE  
REVISED BY  
DATE  
REVISED



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SLO	227	11.46/17.79		

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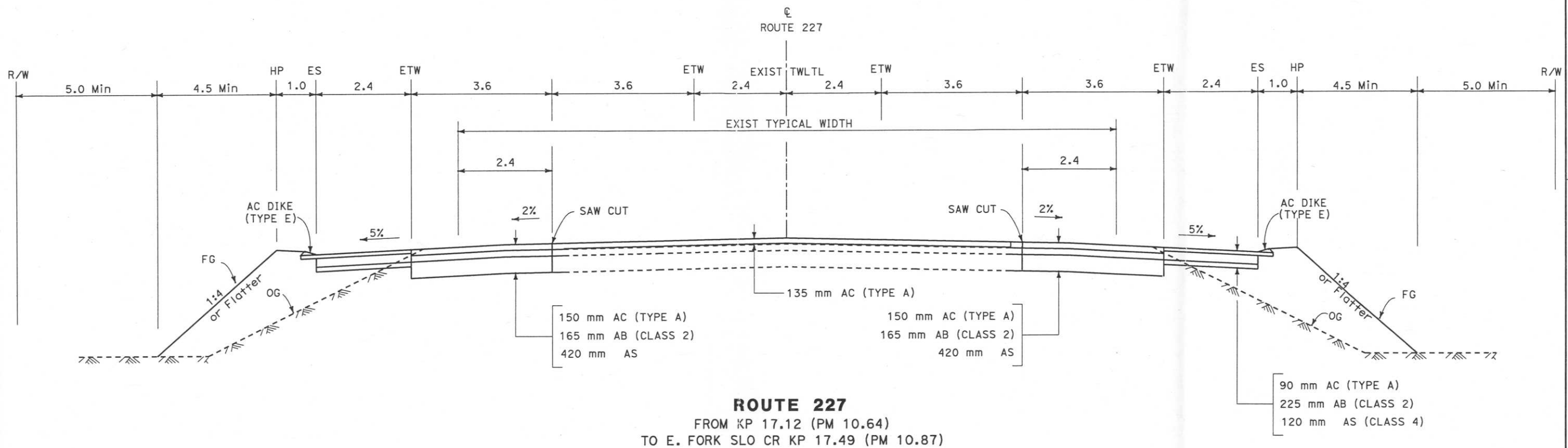
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CIVIL

STATE OF CALIFORNIA



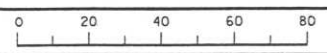
TYPICAL CROSS SECTION

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

NO SCALE

X-2

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS



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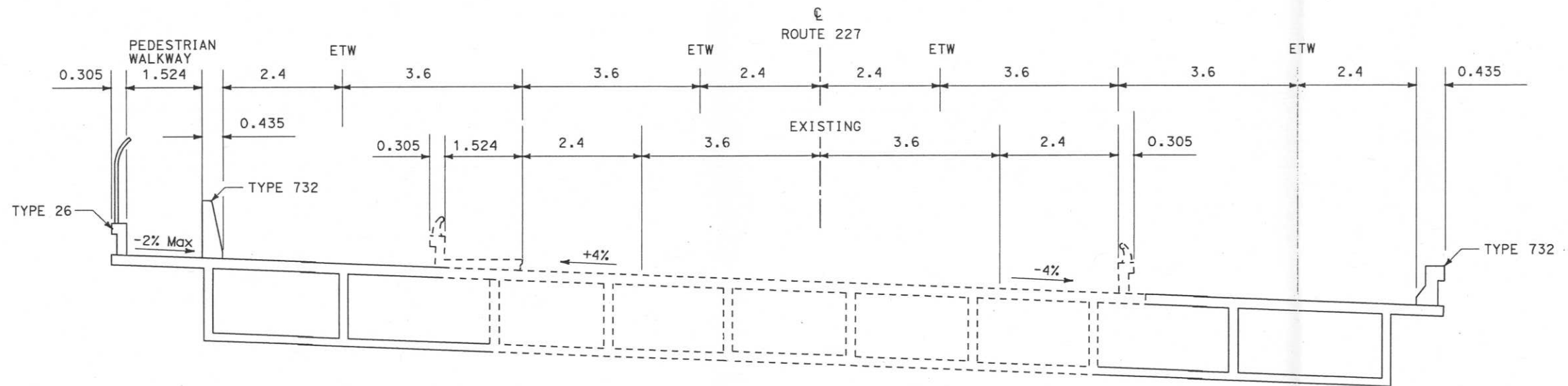
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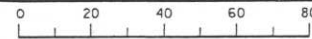




**ROUTE 227**  
West Corral de Piedra Creek  
BRIDGE No. 49-204

**TYPICAL CROSS SECTION**  
**X-4**

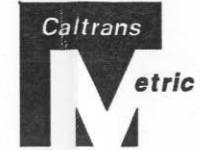
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DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SIO	227	11.46/17.79		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

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Exp.   
CIVIL  
STATE OF CALIFORNIA



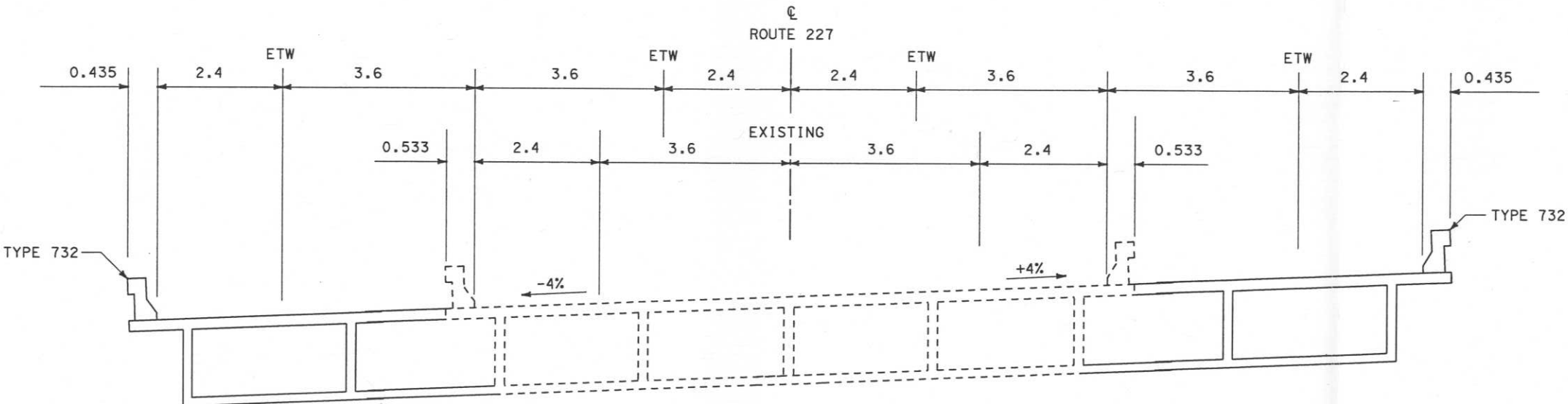
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Slo	227	11.46/17.79		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER  
No.  
Exp.  
CIVIL  
STATE OF CALIFORNIA



ROUTE 227  
North Edna Overhead  
BRIDGE No. 49-220

TYPICAL CROSS SECTION  
X-5



## Project Study Report – Project Development Support Cost Estimate

District-County-Route 05-SLO-227

KP(PM) 11.46/17.79 (7.12/11.06)

EA:05-0J450K

Program Code 20.XX.075.600 (HE1, Widening)

### PROJECT DESCRIPTION:

Limits The project begins at Price Canyon Road KP 11.46 (PM 7.12) and ends at Tank Farm Road KP17.79 (PM 11.06)

Proposed Improvement (Scope) This project on Route 227 between Price Canyon Road and Tank Farm Road, proposes to widen the current two-lane conventional highway to a four-lane conventional highway. Also, the project will provide Classes I, II and III bike lanes, standard shoulders, and signalization of intersections where warranted. Other safety improvements include provision for signs, guardrails and upgrading drainage by extending culverts and constructing curb. There are three bridges within the project limits, of which the West Corral de Piedra Creek Bridge and the North Edna Overhead will be widened to accommodate the proposed roadway widening. The East Fork San Luis Obispo Creek Bridge has adequate width.

Alternate #1

### SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$ 19,290,000
TOTAL STRUCTURE ITEMS	\$ 2,760,000
TOTAL ENVIRONMENTAL MITIGATION ITEMS	\$ 1,000,000
 SUBTOTAL CONSTRUCTION COSTS	 \$ 23,450,000
 <del>TOTAL RIGHT OF WAY ITEMS</del>	 <del>\$ 5,018,000</del>
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$ 28,068,000

## Attachment C

## I. ROADWAY ITEMS

	<u>Average Cost per Lane KM</u>	<u>Number of KMs</u>	<u>Total Cost</u>
Total Cost of Lane KMs	<u>\$1,523,697</u>	<u>12.66</u>	<u>\$19,290,000</u>

Explanation:

## II. STRUCTURES ITEMS

Bridge Name	North Edna Overhead (Widen)	West Corral de Piedra Creek Bridge (Widen)
Bridge Number	49-0220	49-0204
Total Cost for Structure	\$2,100,000	\$660,000

TOTAL STRUCTURES ITEMS \$2,760,000  
 (Sum of Total Cost for Structures)

Explanation: There are three bridges within the project limits, of which the West Corral de Piedra Creek Bridge and the North Edna Overhead will be widened to accommodate the proposed roadway widening. The East Fork San Luis Obispo Creek Bridge has adequate width.

Contact Michael Downs (Technical Liaison Engineer) for further explanation

### III. ENVIRONMENTAL MITIGATION

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>
Environmental Mitigation	<u>1</u>	<u>LS</u>	<u>\$1,000,000</u>	<u>\$1,000,000</u>

Explanation: Landscape Environmental Mitigation cost \$1,000,000.  
Biology \$400,000 , included in Right of Way items below.

### IV. RIGHT OF WAY ITEMS

#### ESCALATED VALUE

- A. Acquisition, including excess lands, permit fees, \$4458000  
Mitigation cost for Biological Resources, and Title  
and Escrow.
- B. Utility Relocation (State share) \$560,000

TOTAL RIGHT OF WAY ITEMS \$5,018,000 \*\*  
(Escalated Value)

Anticipated Date of Right of Way Certification 2015  
(Date to which values are escalated)

Explanation:

\*\* The Right of Way estimate has been escalated to 2015

## Memorandum

To: AMY DONATELLO  
ATOLL

Date: 11/30/2005

File: EA 0J450K ALT REV1

Attn: ARTHUR RAMIREZ  
FRE-DESIGN

## DESCRIPTION:

WIDEN 2 LANES TO 4 LANES, CONTINUOUS TWO WAY  
LEFT TURN LANE OR LEFT TURN CHANNELIZATION.  
CONSTRUCT CLASS II BIKE LANE, WIDEN SHOULDERS

From: Department of Transportation  
Division of Right of Way Central Region

Subject: RIGHT OF WAY DATA SHEET

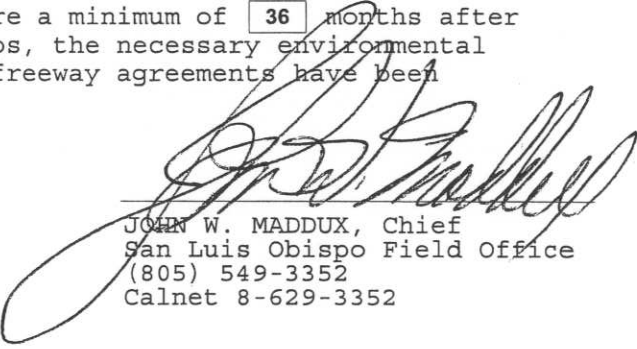
We have completed an estimate of the right of way costs for the  
above-referenced project based on the Right of Way Data Sheet  
Request Form dated 4/27/2004

The following assumptions and limiting conditions were identified:

Additional information includes the following:

Hwy 227 is a conventional highway and thus many of the utilities within the State's right of way are located there pursuant to a Permit. It appears that numerous electric, telephone, and joint poles will require relocation. Depending on clear recovery zone issues, it may be necessary to acquire easements for the Utility Companies. This will only be known once the utilities are verified and plotted on layout plans. At that time it will also be possible to determine whether any casings on transverse crossing may need to be extended. This estimate includes \$25,000 for pos-loc, money for adjusting utility lid covers to grade, and relocating some utility poles. Total of 22 parcels including rural residential, farms and a few commercial properties. All parcels are within the Airport Review zone and five are within the Flood Hazard zoning area. Parcel 044-151-004 has a meeting hall which may be impacted. Estimator has concern that preliminary information provided included parcel 044-401-024, then later dropped. Project appears to require property from 044-401-024 and adjoining parcel 044-401-017.

Right of Way Lead Time will require a minimum of 36 months after we receive certified Appraisal Maps, the necessary environmental clearance has been obtained, and freeway agreements have been approved.



JOHN W. MADDUX, Chief  
San Luis Obispo Field Office  
(805) 549-3352  
Calnet 8-629-3352

REQUEST DATE 4/27/2004

EA 0J450K

ALT REV1

REVISED DATE 11/28/2005 CO/RTE/KP-KP[route 1 \_route 2]

<b>RIGHT OF WAY COST ESTIMATE</b>	<b>CURRENT YR 2005</b>	<b>CONTINGENCY RATE</b>	<b>RIGHT OF WAY ESCALATION RATE</b>	<b>ESCALATED YEAR (Rounded) 2015</b>
ACQUISITION	\$1,823,670	25.00%	5.00%	\$2,971,000
PERMIT FEES	\$7,813	25.00%	5.00%	\$13,000
MITIGATION	\$687,500.00	25.00%	5.00%	\$1,120,000
STATE SHARE OF UTILITIES	\$343,750	25.00%	5.00%	\$560,000
RAP	\$0	25.00%	5.00%	\$0
CLEARANCE/DEMO	\$0	25.00%	5.00%	\$0
TITLE AND ESCROW	\$91,809	25.00%	5.00%	\$150,000
EXPERT WITNESS	\$125,000	25.00%	5.00%	\$204,000
SUPPORT HOURS				
<b>TOTAL CURRENT VALUE *</b>				<b>\$5,018,000</b>

ESTIMATED CONSTRUCTION CONTRACT WORK

\$20,000

R/W LEAD TIME/MONTH

36

<b>PARCEL DATA</b>			
# OF PCL TYPE X	0	# OF DUAL APPR X	0
# OF PCL TYPE A	0	# OF DUAL APPR A	0
# OF PCL TYPE B	22	# OF DUAL APPR B	0
# OF PCL TYPE C	0	# OF DUAL APPR C	0
# OF PCL TYPE D	0	# OF DUAL APPR D	0
# OF MITIGATION	3		
<b>TOTALS</b>	<b>25</b>	<b>TOTALS</b>	<b>0</b>
<b># OF EXCESS PARCEL 0</b>			

<b>UTILITIES</b>	
U4-1	0
U4-2	0
U4-3	0
U4-4	0
U5-7	2
U5-8	0
U5-9	7

<b>RR INVOLVEMENT</b>	
ARE RAILROAD FACILITIES OR RIGHTS OF WAY	YES
CONST/MAINT AGREEMENT	YES
SERVICE CONTRACT	YES
RIGHT OF ENTRY	YES
CLAUSES	YES

<b>MISC R/W WORK</b>	
# OF RAP DISPLACEMENT	0
# OF CLEARANCE/DEMO	0
# OF CONST PERMITS	5
# OF CONDEMNATION	4

\* IF R/W COST ESTIMATE FIELDS ARE BLANK, TOTAL CURRENT VALUE = \$0



ARE UTILITIES OR OTHER RIGHTS OF WAY AFFECTED RAILROAD LEADTIME REQUIRED **PARCEL AREA****UNIT: SQ FT**

TOTAL R/W TAKE	299998
TOTAL EXCESS AREA	0
TOTAL MITIGATION AREA	

TOTAL R/W FEE	\$1,260,936
TOTAL EXCESS COST	\$0

PROVIDE GENERAL DESCRIPTION OF R/W AND EXCESS LANDS REQUIRED (ZONING, USE, MAJOR IMPROVEMENTS, CRITICAL OR SENSITIVE PARCELS, ETC.):

Total of 22 parcels including rural residential, farms and a few commercial properties. All parcels are within the Airport Review zone and five are within the Flood Hazard zoning area. Parcel 044-151-004 has a meeting hall which may be impacted. Estimator has concern that preliminary information provided included parcel 044-401-024, then later dropped. Project appears to require property from 044-401-024 and adjoining parcel 044-401-017. Environmental Mitigation Cost Estimate value of \$6,250 added to RW Acq. Cost for permits and \$1,650,000 added for mitigation parcels.

IS THERE A SIGNIFICANT EFFECT ON ASSESSED VALUATION?

WERE ANY PREVIOUSLY UNIDENTIFIED SITES WITH HAZARDOUS WASTE OR MATERIAL FOUND

ARE RAP DISPLACEMENTS REQUIRE

# OF SINGLE FAMILY

# OF MULTI FAMILY

# OF BUSINESS/NONPROFIT

# OF FARMS

SUFFICIENT REPLACEMENT HOUSING WILL BE AVAILABLE WITHOUT LAST RESORT HOUSING

ARE MATERIAL BORROW OR DISPOSAL SITES REQUIRED

ARE THERE POTENTIAL RELINQUISHMENTS OR ABANDONMENTS?

ARE THERE ANY EXISTING OR POTENTIAL AIRSPACE SITES

ARE ENVIRONMENTAL MITIGATION PARCELS REQUIRED

**DATA FOR EVALUATION PROVIDED BY**ESTIMATOR **REQUIRED**

John Burke

11/30/2005

RAILROAD LIAISON AGENT

SALLY A. HOPKINS

9/20/2004

UTILITY RELOCATION COORDINATOR

LARK P. GRANGER;

9/17/2004

*I have personally reviewed this Right of Way Sheet and all supporting information. I find this Data Sheet complete and current, subject to the limiting conditions set forth.*

  
JOHN W. MADDUX

Field Office Chief, Right of Way

DATE ENTERED PMC

9/20/2004

BY JOHN B BURKE

COST 05 0J450K RW1		M SLO 227		R7.1		D		P=F11 N=F12 *CAPITAL PLAN*	
EA *0J450K		STIP *2200		LSTPGM		TOT PGM		APV COST	
PGM *HE13		FP CODE *		05 PGM		STATE 05		06	
ELEM *RIP				LOCKOUT		FED 05		06	
PRI 9				R/W CONTB		CONTB 05		06	
RW EA 0J4509		EST DTE 09/30/04		CAT B		APPR COMP		TO DO	
PCLS		DOLLARS		TITLE		ACQ		UTIL	
TOTAL 25		4,903		101		4,423		379	
PRIOR									
04-05									
05-06									
06-07 25		4,903		101		4,423		379	
07-08									
08-09									
09-10									
10-11									
11-12									
12-13									
PA&ED		ENV CLR		RW MAPS		REG RW		DT PS&E	
*01/		/10				RW CERT		RDY LIST CNST FY	

COST REMARKS ACQ INCLUDES 2,274,000 MITIGATION, 138,000 EXPT WIT LAL,3 PRLS  
 INCL FOR MIT  
 THERE IS 1 COST-RW SCREEN FOR THIS PROJECT

BEFORE

COST 05 0J450K RW1		M SLO 227		R7.1		D		P=F11 N=F12 *CAPITAL PLAN*	
EA *0J450K		STIP *2200		LSTPGM		TOT PGM		APV COST	
PGM *HE13		FP CODE *		05 PGM		STATE 05		06	
ELEM *RIP				LOCKOUT		FED 05		06	
PRI 9				R/W CONTB		CONTB 05		06	
RW EA 0J4509		EST DTE 11/30/05		CAT B		APPR COMP		TO DO	
PCLS		DOLLARS		TITLE		ACQ		UTIL	
TOTAL 25		5,018		150		4,308		560	
PRIOR									
04-05									
05-06									
06-07									
07-08									
08-09									
09-10									
10-11									
11-12									
12-13		25		5,018		150		4,308	
PA&ED		ENV CLR		RW MAPS		REG RW		DT PS&E	
RW CERT		RDY LIST		CNST FY					
*01/		/10							

COST REMARKS ACQ INCLUDES \$13 PERMIT & \$1,200,000 MITIG & \$204K EXP WIT PER  
 REV DS REQ 11/30/05 JBB  
 PROJECT DATA HAS BEEN UPDATED

AFTER



## Preliminary Environmental Analysis Report

Revised 9/30/05

### Project Information

District 05 County SLO Route 227 PM 7.13/11.06 EA 05-0J450K

Project Manager: <u>Amy Donatello</u>	Phone # <u>805-549-3398</u>
Project Engineer: <u>Joseph Quarshie</u>	Phone # <u>559-243-3532</u>
Environmental Branch Chief: <u>Bryan Apper (former)</u>	Phone # <u>559-243-8156</u>
<u>Larry Newland (current)</u>	Phone # <u>805-542-4603</u>
Environmental Planner Generalist: <u>Beatriz Ruano (former)</u>	Phone # <u>559 - 243-8288</u>
<u>Yvonne Hoffmann (current)</u>	Phone # <u>805- 542-4759</u>

### Project Description

#### ***Purpose and Need:***

Due to increased traffic volumes on State Route 101, local commuter traffic has diverted to, and increased on, State Route 227. The primary purpose of this project is to relieve congestion either through enhancing operations or increasing capacity in order to improve traffic flow along the Route 227 Transportation Corridor between Price Canyon Road and Tank Farm Road.

#### ***Description of work:***

The project proposes corridor improvements along State Route 227 (PM 7.13/11.06) in San Luis Obispo county.

***Alternatives:*** The PSR for this project proposes one build Alternative and one no-build alternative:

***Alternative 1:*** The build alternative proposes the following:

- 1) widening the corridor from two to four lanes, which would include:
  - 1) four 3.6 meter (12-foot) travel lanes
  - 2) a 4.8 meter (14-foot) median from KP 14.63 to KP 17.80 (PM 9.09 to PM 11.06)
  - 3) 2.4 meter (8-foot) outside shoulders and 0.6 meter (2-foot) inside shoulders
  - 4) 0.9 meter (3-foot) shoulder backing
  - 5) 5.5 – 9.1 meter (18-30 foot) clear recovery zone
  - 6) widening the West Corral De Piedra Creek Bridge (PM 7.328)
  - 7) widening the North Edna Overhead (PM 8.692)
- 2) signalization of intersections where warranted
- 3) widening intersections to design standards
- 4) provide bike lanes – striping would be on newly constructed shoulders, where needed
- 5) implementation of safety analysis recommendations: signs, guardrails, etc.
- 6) upgrade drainage, which would include extension of culverts, dikes, curb and gutter along with the potential for bioswales/retention basins, which would require acquisition of additional right of way – approximately 2.7 hectares (6.7 acres)

***Alternative 2:*** No-build Alternative – this alternative would not make any changes to the existing conditions at the proposed project location.

### Anticipated Environmental Approval

- | <u>CEQA</u>   | <u>NEPA</u>  |
|---|--|
| <input type="checkbox"/> Categorical/Statutory Exemption              | <input type="checkbox"/> Categorical Exclusion                       |
| <input checked="" type="checkbox"/> Negative Declaration / focused ND | <input checked="" type="checkbox"/> Finding of No Significant Impact |
| <input type="checkbox"/> Environmental Impact Report                  | <input type="checkbox"/> Environmental Impact Statement              |

The anticipated environmental document for the proposed project is a Negative Declaration (ND)/Finding of No Significant Impact (FONSI). The Federal Highways Administration and the California Department of Transportation would act as lead agencies in the preparation of a joint CEQA/NEPA (California Environmental Quality Act/National Environmental Policy Act) environmental document. It is estimated that it would take 36 months (see Summary Statement below for risk to schedule clarification) to obtain environmental approval for the proposed project.

### PSR Summary Statement

Key environmental issues include potential impacts to cultural resources and Section 7 Formal Consultation. The proposed environmental schedule is anticipated to take 36 months, assuming that culturally sensitive areas can be avoided. If not, additional archaeological studies (Extended Phase I and Phase II) would be required, which could add up to two years to the schedule.

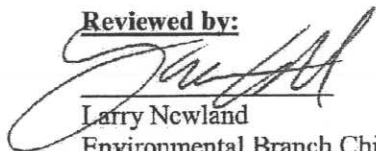
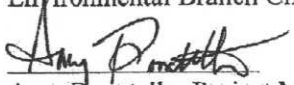
### Anticipated Project Mitigation

Estimated mitigation costs for Biological Resources is up to 3.6 hectares (9.0 acres) and \$400,000. Estimated mitigation cost for Aesthetics/Landscape Architecture is up to \$1,000,000.

### Disclaimer : 05-0J450K

This report is not an environmental document. Preliminary analysis, determinations, and estimates of mitigation costs are based on the project description provided in this report. The estimates and conclusions provided are approximate and are based on cursory analysis of probable effects. This report is to provide a preliminary level of environmental analysis to supplement the Project Study Report. Changes in project scope, alternatives, or environmental laws will require a re-evaluation of this report.

### Reviewed by:

	Date: <u>10/5/05</u>
Larry Newland Environmental Branch Chief	
	Date: <u>10/05/05</u>
Amy Donatello, Project Manager	

# Environmental Technical Reports or Studies Required

	Study	Document	N/A
Community Impact Study	X	<input type="checkbox"/>	<input type="checkbox"/>
Farmland	X	<input type="checkbox"/>	<input type="checkbox"/>
Section 4(f) Evaluation	X	<input type="checkbox"/>	<input type="checkbox"/>
Visual Resources	X	<input type="checkbox"/>	<input type="checkbox"/>
Water Quality	X	<input type="checkbox"/>	<input type="checkbox"/>
Floodplain Evaluation	X	<input type="checkbox"/>	<input type="checkbox"/>
Noise Study	X	<input type="checkbox"/>	<input type="checkbox"/>
Air Quality Study	X	<input type="checkbox"/>	<input type="checkbox"/>
Paleontology	X	<input type="checkbox"/>	<input type="checkbox"/>
Wild and Scenic River Consistency	<input type="checkbox"/>	<input type="checkbox"/>	X
Cumulative Impacts	X	<input type="checkbox"/>	<input type="checkbox"/>
<b>Cultural</b>			
ASR	X	<input type="checkbox"/>	<input type="checkbox"/>
HSR	X	<input type="checkbox"/>	<input type="checkbox"/>
HASR	X	<input type="checkbox"/>	<input type="checkbox"/>
HPSR	X	<input type="checkbox"/>	<input type="checkbox"/>
Section 106 / SHPO	X	<input type="checkbox"/>	<input type="checkbox"/>
Native American Coordination	X	<input type="checkbox"/>	<input type="checkbox"/>
Other			
Finding of Effect_____	X	<input type="checkbox"/>	<input type="checkbox"/>
Data Recovery Plan_____	X	<input type="checkbox"/>	<input type="checkbox"/>
<b>Hazardous Waste</b>			
ISA (Additional)	X	<input type="checkbox"/>	<input type="checkbox"/>
PSI	X	<input type="checkbox"/>	<input type="checkbox"/>
Other			
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Biological</b>			
Endangered Species (Federal)	X	<input type="checkbox"/>	<input type="checkbox"/>
Endangered Species (State)	X	<input type="checkbox"/>	<input type="checkbox"/>
Species of Concern (CNPS, USFS, BLM, S, F)	X	<input type="checkbox"/>	<input type="checkbox"/>
Biological Assessment (USFWS, NMFS)	X	<input type="checkbox"/>	<input type="checkbox"/>
Biological Opinion	X	<input type="checkbox"/>	<input type="checkbox"/>
Wetlands	X	<input type="checkbox"/>	<input type="checkbox"/>
Invasive Species	X	<input type="checkbox"/>	<input type="checkbox"/>
Natural Environment Study	X	<input type="checkbox"/>	<input type="checkbox"/>
NEPA 404 Coordination (Nationwide)	<input type="checkbox"/>	<input type="checkbox"/>	X
Other			
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Permits**

401 Permit Coordination	X	<input type="checkbox"/>	<input type="checkbox"/>
404 Permit Coordination	X	<input type="checkbox"/>	<input type="checkbox"/>
Nationwide X Individual <input type="checkbox"/>			
1601 Permit Coordination	X	<input type="checkbox"/>	<input type="checkbox"/>
City/County Coastal Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	X
State Coastal Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	X
NPDES Coordination	X	<input type="checkbox"/>	<input type="checkbox"/>
US Coast Guard (Section 10)	<input type="checkbox"/>	<input type="checkbox"/>	X
Section 2081	<input type="checkbox"/>	<input type="checkbox"/>	X



## **Discussion of Technical Review**

**Community Effects.** Community involvement would be encouraged to receive feedback on visual design preferences. A Community Impact Assessment may be required.

**Visual Effects.** A Scenic Resource Evaluation and a Visual Impact Assessment would be required. This project would have the potential to impact visual resources on one of the main entry roads to the city. This portion of Route 227 is a "Gateway Corridor" which constitutes the need for a beautification theme.

**Water Quality and Erosion.** This project is located within Hydrologic Units 310.24 (San Luis Obispo Creek) and 310.26 (Pismo Creek), near San Luis Obispo, in the Estero Bay Hydrologic Watershed. The Central Coast Regional Water Quality Control Board utilizes the Central Coast Basin Plan and other regulatory instruments to enforce water quality requirements. Water bodies that intersect the project include San Luis Obispo Creek, and West Corral De Piedra Creek. The 1998 303(d) List TMDL Priority Schedule indicates that there are no 303(d) listed waters in hydrologic unit 310.26, while hydrologic unit 310.24 (San Luis Obispo Creek) is listed as having several impairments below West Marsh St.

Potential impacts to water quality (construction site run-off, erosion, accidental spills of hazardous material and disruption of natural drainage patterns) during construction should be addressed in both the design and construction phases. In the design phase, plans should comply with the Caltrans Storm Water Management Plan (SWMP) and employ the use of appropriate Best Management Practices (BMPs) to ensure that there will be no detrimental discharges into any bodies of water to the maximum extent practicable (MEP). In the construction phase, the contractor shall exercise every reasonable precaution, as stated in the Caltrans Standard Specifications Section 7-1.01G, to eliminate potential impacts to water quality while implementing appropriate BMPs.

A Water Quality Assessment (WQA) should be written to establish the hydrologic characteristics of the area and identify various applicable permanent BMPs available and appropriate for the project. A Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Assessment (WQA) would be required to address the need and feasibility of implementing BMPs of both permanent and temporary nature.

The Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) permit (Order No. 99-06-DWQ, No. CAS000003) regulates storm water runoff from this project. Therefore, the following items may apply to construction activities:

- 1) A report of NOTIFICATION OF CONSTRUCTION (NOC) for all construction projects with more than one acres (0.4 hectares) of soil disturbance shall be submitted to the appropriate Regional Water Quality Control Board (RWQCB) at least 30 days prior to the start of construction. The tentative start date, tentative duration, location of construction, description of project, an estimate of the number of affected acres, resident engineer in charge of the project, and telephone number of the resident engineer shall be reported.
- 2) A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented during construction to the satisfaction of the Resident Engineer.
- 3) A NOTICE OF CONSTRUCTION COMPLETION (NOCC) shall be submitted to the RWQCB upon completion of the construction and stabilization of the site. A project will be considered complete when the criteria for final stabilization in the Construction General Permit is met.

**Air and Noise.** According to 40 CFR 93.127 this project would not be exempt from regional emissions analysis. A Hot Spot Analysis for carbon monoxide (CO) would not be required on this project because the project is located in an attainment area and does not propose any new intersections. A qualitative analysis is necessary in order to determine the project's potential to increase long-term and short-term PM<sub>10</sub> emissions since, according to State standards, the air basin is categorized as being in non-attainment.

The Caltrans Traffic Noise Analysis Protocol is used to define the procedures for analysis of noise related impacts created by traffic. A Type 1 project is described under Title 23, Part 772 of Code of Federal Regulations (23 CFR 772) as: a proposed Federal or Federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway which significantly changes the vertical or horizontal alignment, or increases the number of through traffic lanes. Type 1 projects also includes projects that have a potential to increase noise levels at adjacent receivers, such as increasing volume, speed, or moves traffic closer to receivers.

According to Caltrans Traffic Noise Protocol and NEPA, this project does qualify as a Type 1 project due to the many changes that decrease distance between the facility and existing residences (bring them closer). This definition is extended to state highways with federal funding by Caltrans.

During the site visit one location at Post Mile 8.0 was identified that may have potential to require noise abatement measures for an elementary school and several nearby homes. This area is located above a rail crossing between the highway and the school, which could create a situation where the school will be at a lower elevation compared to the existing highway condition. Another location, north of Buckley Road, has a community airfield adjacent to the project limits along with a California Department of Forestry Fire Station, which also contains some aircraft storage. Federal Aviation Administration (FAA) regulations may apply in this region (PM 11.0) and the aircraft may be the predominate source of noise compared with the highway.

The project would require study of several receptors and surrounding land uses to determine the potential impacts from traffic noise.

**Cultural Resources.** There is one known Prehistoric Archaeological Resource and approximately 20 Architectural Resources that would require evaluation within the Area of Potential Effect. A Phase I and Historic Architectural Survey Report would need to be prepared and presented to the State Historic Preservation Officer and the Federal Highway Administration for concurrence.

**Native American Coordination.** The Native American Community would need to be consulted during the life of the project.

**Paleontology Review.** The contract specifications for this project shall state that if any sensitive fossil remains are found during construction operations, the construction shall be halted in the immediate vicinity of the discovery, until the District Archaeologist or District Paleontology Coordinator or his on site representative have the opportunity to review the find.

### **Hazardous Waste/Materials.**

There would be a potential for encountering hazardous waste/material within the project limits, including several open and closed leaking underground storage tanks. A visual inspection of the West Corral De Piedra Creek Bridge (PM 7.32) showed signs of possible asbestos containing material on the bridge railing shims. No evidence of asbestos or lead based paint was found on the North Edna Overhead. Bridge inspections would be required to ensure that the soil excavations/ structural modification anticipated at selected bridges do not result in unnecessary release of hazardous concentrations of lead or asbestos.

Heavy metal and Hydrocarbon studies would be required adjacent to the existing railroad under the North Edna Overhead should construction activities involve excavation or activities that would disturb soil around the railway. An Aerially Deposited Lead study would be required. A Naturally occurring asbestos (NOA) study is highly recommended for this project. An Initial Site Assessment and a Preliminary Site Investigation would be required.

### **Biological Resources.**

There are 8 drainages that have the potential to contain wildlife habitat and would require study within the project limits. The following are approximate post miles where the drainages were seen during the windshield study: PM 7.1,7.3,8.5,8.7,10.9,11.5,11.7. Also, East Canyon de Piedra Creek and a bridge/box culvert over it would need to be considered if the project starts 450 meters south of the Price Street intersection. Surveys for plants, frogs, steelhead, turtles, and Tiger Salamander would be required. Section 7 Formal Consultation with the United States Fish and Wildlife Services would be anticipated.

### **Mitigation**

Estimated mitigation cost for Biological Resources is up to 3.6 hectares (9.0 acres) and \$400,000. Estimated mitigation cost for Landscape Architecture is up to \$1,000,000.

**Permits.** Permits from the State Department of Fish and Game (1601), U. S. Army Corps of Engineers 404 Nationwide Permit, and the Regional Water Quality Control Board (401) would be required.

### **List of Preparers**

Hazardous Waste Review by Shawn Ogletree	Date 7/11/03
Biological Review by Lisa Schicker	Date 7/14/03
Air, Noise and Water Review by Christopher Bassar	Date 7/24/03
Paleontology Review by Wayne Mills	Date 6/10/03
Cultural Review by Christopher Ryan	Date 7/31/03
Visual Review by Bob Carr	Date 7/07/03

[illegible]

# Central Region Environmental Division Mitigation Cost Compliance Request Form

☒ Pear      ☐ Draft ED      ☐ Final ED

Dist.-Co.-Rte.-PM: 05-SLO-227 EA: 05-0J450K Project Name: 227 Improvements  
Project Description: The project proposes corridor improvements along State Route 227 (PM 7.13/11.06) in San Luis Obispo county. Improvements would include:

- 1) widening the corridor from two to four lanes, which would include:
  - 1) four 12 foot travel lanes
  - 2) a 14 foot median
  - 3) 8 foot outside shoulders 2 foot inside shoulders
  - 4) 3 foot shoulder backing
  - 5) 18-30 foot clear recovery zone
  - 6) widening the West Corral De Piedra Creek Bridge (PM 7.328)
  - 7) widening the North Edna Overhead (PM 8.692)
- 2) signalization of intersections where warranted
- 3) widening intersections to design standards
- 4) provide bike lanes – striping would be on newly constructed shoulders
- 5) implementation of safety analysis recommendations: signs, guardrails, etc.
- 6) drainage upgrades, which would include extension of culverts, dikes, curb and gutter, along with the potential for bioswales/retention basins, which would require acquisition of additional right of way (~6.7 acres)

Environmental Manager: Bryan Apper/Larry Newland Phone Number: 559-243-8156  
805-542-4603

Project Manager: Amy Donatello Phone Number: 805-542-4678

Date: 9/16/03 (Revised 9/13/04) (Updated again 11/23/05 – removed aesthetic/landscaping costs, which will be included in construction costs and included cost of mitigation parcels with a number used previously)

Numbers in thousands

	Prior to Construction	During Construction	Post Construction
Archaeological			
Biological		\$200	\$200
Historical			
Paleontology			
Hazardous Waste Remediation			
Aesthetics			
Noise			
Total Permit Cost*	5.0		
DFG Document Review Fee	1.25		
Other			
<b>Total</b>	<b>\$6.25</b>	<b>\$200</b>	<b>\$200</b>

\*Includes 1601, 401 and 404 permit fees

- This form is completed as part of the PEAR for all candidate projects, at completion of the Draft Environmental Document, and at the completion of the Final Environmental Document

- This form is to be completed for all SHOPP & STIP projects (even those w/o Mitigation)
- This form is to be completed for all Minor A & B projects with mitigation requirements
- Costs are to include all costs to complete the commitment including: capital outlay (non-staffing support costs); cost of right-of-way or easements; long-term monitoring and reporting, and; any follow-up maintenance
- Attach detailed descriptions of line items included in estimates

After approval by the Project Manager, a copy of the completed form is to be sent to the CR Environmental Support Services Branch, and ROW.

Attach completed ROW data sheets when forwarded to ROW.

PA & ED Date	RTL Date	Months Between	Months Required

### Right of Way Data Sheet Input Information

Environmental Mitigation Parcels: ☒ Required ☐ Not Required ☐ Pending

9 Acres \$ 550,000 Additional Funding

(Mitigation required)



## PDS Design Scoping Checklist

### Project Information

District 05 County SLO Route 227 Kilometer Post (Post Mile) KP R11.46/R17.79 (PM R7.12/R11.06)  
EA 0J450K

Description This project on Route 227 between Price Canyon Road and Tank Farm Road, proposes to widen the current two-lane conventional highway to a four-lane conventional highway. Also, the project will provide Classes I-III bike lanes, standard shoulders, and signalization of intersections where warranted. Other safety improvements include provision for signs, guardrails and upgrading drainage by extending culverts and constructing curb. There are three bridges within the project limits, of which the West Corral de Piedra Creek Bridge and the North Edna Overhead will be widened to accommodate the proposed roadway widening. The East Fork San Luis Obispo Creek Bridge has adequate width.

Project Manager : Amy Donatello Phone # (805) 549-3398

Project Engineer: Joseph Quarshie Phone # (559) 243-3531

Design Functional Manager : Arthur Ramirez Phone # (559) 243-3527

Project Development Coordinator: Ken Cozad Phone # (916) 653- 0971

### Project Screening

1. Project Description as Noted in Regional Transportation Plan: This project is a segment of Route 227, which is a two to four-lane conventional highway
2. Project Setting State Route 227 varies from a 2-lane to a 4-lane conventional highway throughout the project limits.  
Rural or Urban Urban  
Current land uses Industrial, Commercial, Agricultural and Residential  
Adjacent land uses Industrial, Commercial, Agricultural and Residential  
(industrial, light industry, commercial, agricultural, residential, etc.)  
Existing landscaping/planting \_\_\_\_\_
3. Route Adoption: Date March 1935 Type of Facility ( Freeway, Controlled Access Highway, or Conventional Highway) Conventional Highway  
Freeway Agreement: Date \_\_\_\_\_



## Description of the Transportation Problem

South San Luis Obispo is increasingly urbanized and many commuters from South of the City are choosing this route as an alternative to US 101. Congestion is increasing to unacceptable levels throughout the project limits and particularly in the segment that is a 2 lane conventional highway (between Los Ranchos Road and Tank Farm Road). There are difficulties with turning movements, and bicycle and pedestrian conflicts may increase as land use intensifies and population grows.

## Proposed Scope of Work

This project is on Route 227 between Price Canyon Road and Tank Farm Road, proposes to widen the current two-lane conventional highway to a four-lane conventional highway. Also, the project will provide Classes I, II and III bike lanes, standard shoulders, and signalization of intersections where warranted. Other safety improvements include provision for signs, guardrails and upgrading drainage by extending culverts and constructing curb. There are three bridges within the project limits, of which the West Corral de Piedra Creek Bridge and the North Edna Overhead will be widened to accommodate the proposed roadway widening. The East Fork San Luis Obispo Creek Bridge has adequate width.

## Design Criteria

Type of facility to be considered? (more than one may apply)

Freeway              Expressway              Conventional Highway ☒              Urban Street

Other (specify) \_\_\_\_\_

Design Speed for highway facilities within the project limit? 85 km/hr

Design Period: Construction Year is? 2015-16 Design Year is? 2035

Design Capacity: Level of Service to be maintained over the design period is?

Mainline B Ramp \_\_\_\_\_ Local Street \_\_\_\_\_ Weaving Sections \_\_\_\_\_

Design Vehicle Selection?

STAA \_\_\_\_\_ California ☒ Bus \_\_\_\_\_

## Proposed Roadbed and Structure Widths

Forecasted Average Daily Traffic Volumes 31,000 vehicles per day

Percent Truck Volume 4%

	Roadbed Width			Structure Width		
	Existing / Proposed / Standard			Existing / Proposed / Standard		
State highway						
Lane Widths	<u>7.2</u>	<u>14.4</u>	<u>14.4</u>	<u>13.3-14.3</u>	<u>14.4</u>	<u>14.4</u>
Left Shoulder	<u>2.44</u>	<u>2.4</u>	<u>2.4</u>	<u>0</u>	<u>2.4</u>	<u>2.4</u>
Right Shoulder	<u>2.44</u>	<u>2.4</u>	<u>2.4</u>	<u>0</u>	<u>2.4</u>	<u>2.4</u>



Median Width	<u>0-4.8</u>	<u>3.6-4.8</u>	<u>3.6</u>	<u>0</u>	<u>3.6</u>	<u>3.6</u>
Bicycle Lane						
Local Street						
Lane Widths	<u>7.2</u>	<u>14.4</u>	<u>14.4</u>			
Left Shoulder						
Right Shoulder	_____	_____	_____	_____	_____	_____
Median Width	_____	_____	_____	_____	_____	_____
Bicycle Lane	_____	_____	_____	_____	_____	_____

Median Barrier Existing N/A  
Proposed (Concrete Barrier / Thrie Beam/Other) No

## **Roadway Design Scoping**

### **Mainline Operations**

#### **Mainline Highway Widening**

Existing pavement to be rehabilitated with Asphalt Concrete / Rubberized AC / PCC.

Widen existing 2 lanes facility to 4 lanes. R/W acquisition for \_\_\_\_\_ lanes.

Local street structures to span \_\_\_\_\_ lanes of highway (for future requirements).

Upgrade existing facility to:

- |   |   |
|---|---|
| <input type="checkbox"/> Expressway Standards       | <input type="checkbox"/> Freeway Standards            |
| <input type="checkbox"/> Controlled Access Highway  | <input type="checkbox"/> Traversable Highway          |
| <input type="checkbox"/> Improve Vertical Clearance | <input type="checkbox"/> Adequate Falsework Clearance |

### **Ramp / Street Intersection Improvements**

- |   |   |
|---|---|
| X New Signals   | X Modify Signals  |
| X Right Turn Lanes  | X Widening For Localized Through Lanes                                    |
| X Merging Lanes   | X Deceleration / Acceleration Lanes                                       |
| X Left Turn Lanes   | <input type="checkbox"/> > 300 VPH Left Turn (Requires Double Left Turn)  |
| <input type="checkbox"/> Interchange Spacing                                    | <input type="checkbox"/> Ramps Intersect Local Street < 4 % Grade         |
| X Intersection Spacing  | <input type="checkbox"/> Exit Ramps > 1,500 VPH Designed As Two Lane Exit |
| <input type="checkbox"/> Single Lane Ramps Exceeding 300 M Widened To Two Lanes |   |
| <input type="checkbox"/> Other _____  |   |

### **Operational Improvements**

#### **Truck Climbing Lane**

☐ Sustained Grade Exceeding 2% And Total Rise Exceeds 15 M.

☐ Other \_\_\_\_\_

#### **Auxiliary Lanes**

☐ When 600 M Between Successive On-Ramps.

☐ Two Lane Exit Ramps Have 400 M Auxiliary Lane.

☐ Weaving < 500 M between Off-Ramp and On-Ramp.

☐ Other \_\_\_\_\_

### **Right of Way Access Control**

☐ Existing access control extends at least 15 m beyond end of curb return, radius or taper.

X New construction access control extends at least 30 m (urban areas) or 100 m (rural areas) beyond end of curb returns, radius or taper.

☐ Other \_\_\_\_\_

### **Highway Planting**

X Replacement

X Median

X Mitigation

### **Safety**

☐ Off-Freeway Access

☐ Maintenance Vehicle Pull-Out

### **Roadside Management**

☐ Slope paving

☐ Gore paving

X Roadside paving

### **Stormwater**

X Erosion control

X Drainage

X Slope design

### **Structures**

☐ New Bridge

X Bridge Rehab

☐ Retaining Wall

X Other Bridge Widening

☐ On STRAIN list for \_\_\_\_\_

**Additional Studies**

Identify additional studies that may be required including resources and schedules.

Detailed Traffic Analysis and Operations scoping will be required during the Project Report phase

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Preliminary Evaluation provided by:

**Project Engineer**     Joseph Quarshie     **Date** 9/15/05

**Design Manager**     Arthur Ramirez     **Date** 9/15/05

Design Concept approved by:

**Project Development Coordinator** Ken Cozad     **Date**

*Conceptual approval in no way implies that any non-standard features currently identified or identified in the future will be approved. Non-standard features will need to be identified, fully analyzed and justified prior to approval (via a design exception fact sheet) of the selected alternative.*

Reviewed by:

**Project Manager** Amy Donatello     **Date** 9/15/05



## PDS Traffic Forecasting, Analysis and Operations Scoping Checklist

### Project Information

District 05 County SLO Route 227 Kilometer Post (Post Mile) 11.47/R20.47  
(7.13/R12.72) EA 0J450K

Description (include how project was identified: system planning, safety investigation, highway and freeway surveillance, etc.)

Project was identified through the 2002 State Route 227 Corridor Study

Project Manager: Amy Donatello

Phone # (805) 549-3398

Project Engineer: Arthur Ramirez

Phone # (559) 243-3527

Traffic Forecasting Functional Manager: Claudia Espino

Phone # (805) 549-3640

Traffic Operations Functional Manager: Paul McClintic

Phone # (805) 549-3473

### Traffic Forecasting, Traffic Analysis Scoping

The traffic analysis prepared for the PSR(PDS) was based upon 2002 traffic counts collected by Caltrans staff. A 1.2 percent annual growth rate was assumed for the Year 2035 analysis. Additional traffic forecasting will be required at the later stages of this project. New traffic counts and the best available traffic model will be required for any future traffic analysis.

### Traffic Operations Scoping

The Level of Service analysis prepared for the PSR(PDS) shows State Route 227 will require widening from a two-lane conventional highway to a four-lane conventional highway to accommodate the projected Year 2035 traffic volumes. The widening would encompass the stretch of State Route 227 from Price Canyon Road KP 11.47 (PM 7.12) to Tank Farm Road KP R17.79 (PM R11.06). The results of the traffic analysis prepared for the PSR(PDS) are presented in Table 1.

Table 1: Existing and Future Roadway Segments Level of Service

Segment	Year 2002 2-Lane V/C	Year 2002 2-Lane LOS	Year 2035 2-Lane V/C	Year 2035 2-Lane LOS	Year 2035 4-Lane Density (pc/mi/ln)	Year 2035 4-Lane LOS
SR 227: From Corbett Canyon Road to Price Canyon Road	0.21	C	0.32	D	NA	NA
Price Canyon Road: From SR 227 to Hwy 101	0.26	C	0.40	D	NA	NA
SR 227: From Price Canyon Road to Los Ranchos Road	0.49	E	0.74	F	15.6	B
SR 227: From Los Ranchos Road to Tank Farm Road	0.60	E	0.91	F	18.7	C

A detailed traffic analysis will be required at the later stages of this project. This study should be expanded to include both intersection and mainline analysis.

### Project Screening

1. Project Features: New R/W? N/A Excavation or fill? N/A

2. Project Setting

State Route 227 varies from a 2-Lane to a 4-Lane conventional highway throughout the project limits.

Rural or Urban: Urban

Current land uses: industrial, light industry, commercial, and residential

Adjacent land uses: industrial, light industry, commercial, and residential

### Existing Traffic Operational Conditions and Warrants Supporting the Need for the Improvement

Mainline Highway: Existing Level of Service is "E" on SR 227 from Price Canyon Road to Tank Farm Road. Year 2035 Level of Service is projected to be that of "F" on SR 227 from Price Canyon Road to Tank Farm Road

Ramp intersection: N/A

Merge / diverge: N/A

Street Intersection: N/A

Weaving / merging (spacing): N/A

Other: N/A

### **Traffic Modeling Assumptions**

**X Use Local Model**

o Update New Model

o New Model

**X Existing Traffic Counts**

**X New Traffic Counts**

**X Historical Growth**

**X General Plan (GP) Buildout**

**X Pro-Rate GP Growth**

**X Existing Year (2002 )**

**X Design Year (2035 )**

**X Interim Year (2015 )**

Other

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### **Traffic Analysis**

**X Mainline LOS**

o Merge/Diverge LOS

o Ramp Int. LOS

o Adjacent IC LOS

o Ramp Metering (open)

o Ramp Metering (later)

**X Left/Right Turn Storage**

**X Accident / Safety Analysis**

**X Intersection Queues**

**X Construction Staging**

**X Project Staging**

Other

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References: Guide for the Preparation of Traffic Impact Studies, Caltrans January 2001;  
Highway Capacity Manual: Transportation Research Board

### Traffic Operations Scoping

### Traffic Operational Improvements

Attach the project location map to this checklist to show location of all traffic operations improvements anticipated.

☐ Auxiliary Lanes

**☒ Intersection Improvements**

☐ Truck Climbing Lane

**☒ New Signals**

**☒ Modify Signals**

☐ Merging Improvements

☐ Weaving Improvements

☐ Deceleration / Acceleration Lanes

Other

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### Traffic Management Systems

Attach the project location map to this checklist to show location of all traffic management systems identified.

☐ Ramp Meters

☐ HOV Ramp Bypass

☐ Mainline HOV Lanes

**☒ Detector Loops**

**☒ Communication Networks (fiber optic, telephone, etc.)**

☐ Closed Circuit Television

☐ Changeable Message Sign

☐ Highway Advisory Radio

Other

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Discuss strategies (technical analysis, public outreach, etc.) to secure local agency and public support to implement HOV lanes and ramp metering:

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**Preliminary Traffic Forecasting Evaluation provided by:**

Traffic Forecasting: Judy Lang

Date: 8/6/2004

Preliminary Traffic Operations Evaluation provided by:

Traffic Operation Engineer: Roger D. Barnes

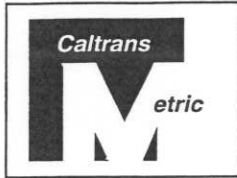
Date: 8/6/2004

Traffic Electrical Engineer \_\_\_\_\_ Date \_\_\_\_\_



# Appendix E

## Exemption Documentation Form



Dist-County-Route 05-Slo-227

Kilometer Post (Post Mile) Limits KP 11.46/17.79

(PM 7.12/11.06)

Project Type

EA: 05-0J450k

RU: \_\_\_\_\_

Project Identification: STIP(075.600)

Phase: ☒ PID ☐ PA/ED ☐ PS&E

**Regional Water Quality Control Board(s):** Central Coast Regional Water Quality Control Board

Is the Project exempt from incorporating Treatment BMPs? Yes ☐ No ☒  
(If yes, attach the Exemption Documentation Form)

Are new Treatment BMPs incorporated into the Project? Yes ☒ No ☐

Total Disturbed Soil Area: 10 Hectares

Estimated Construction Start Date: \_\_\_\_\_

Notification of Construction (NOC) Date to be Submitted: \_\_\_\_\_

Notification of ADL reuse (if yes, provide date) Yes ☐ Date \_\_\_\_\_ No ☐ N/A ☐

Separate Dewatering Permit (if yes, permit number) Yes ☐ Permit # \_\_\_\_\_ No ☐ N/A ☐

*This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.*

**Joseph Quarshie**

10/4/04  
Date

Registered Project Engineer/Licensed Landscape Architect

*I have reviewed the storm water quality design issues contained in the Storm Water Data Report and Attachments attached hereto, and find the data to be complete, current, and accurate:*

**Amy Donatello**  
Project Manager

Date

**Lance Gorman**  
Designated Maintenance Representative

Date

**Dennis Reeves**  
Designated Landscape Architect Representative

10/5/04  
Date

**Jennifer O'Neal**

Date

Design District/Regional Storm Water Coordinator or Designee

STAMP  
[required for PS&E only]

## Attachment H

PROJECT RISK MANAGEMENT PLAN

Dist - E.A      05-0J450      Project Name SR-227 Improvements

Co-Rte-PN SLO-227-R7.1/R12.7

Date      9/29/05

Project Mngr Amy Donatello      Telephone Number (805) 542-3398

PROJECT RISK MANAGEMENT PLAN																	
Priority	Identification						Qualitative Analysis				OPTIONAL Quantitative Analysis			Risk Response Plan		Monitoring and Control	
	Status	ID #	Date Identified Project Phase	Functional Assignment	Threat/Opportunity Event	Risk Trigger	Type	Probability	Impact	Risk Matrix	Probability (%)	Impact (\$ or days)	Effect or days (\$	Strategy	Response Actions including advantages and disadvantages	Responsibility (Risk Manager)	Last date changes made to risk and Comments
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14) =(12)x(13)	(15)	(16)	(17)	(18)
1	Active		9/7/05  PID	Right of Way	Unable to execute railroad agreement with Union Pacific in time to meet RTL commitment	HQ will not RTL project because RR constraint remains.	Schedule	Low	Moderate					Avoidance	Possibility that the project will be constructed in 2 phases with RR overhead in phase 2. Start RR agreement process during phase 1.	Who in R/W does RR agreements?	
1	Active		9/7/05  PID	Right of Way	Approximately 200 potholes will be required at an estimated cost of \$25,000. Risk of not having enough time or money in positive location contract to do all necessary work.	At time of request r/w informs design they will not be able to do all potholes until a new contract is in place (next fiscal year)	Schedule Cost	Moderate	High					Acceptance	Current schedule allows 4 years for PS&E. Request potholing early enough so that if some work needs to wait to the following year it won't impact schedule although cost may increase.	Arthur Ramirez	
1	Active		9/7/05  PID	Design	Assuming that a design exception will be obtain for clear recovery zone issues only to find they are not obtained late in PS&E stage and parcel requirement revisions are required.	Request for design exceptions are denied late in PS&E phase.	Schedule Cost	Low	Very High					Avoidance	Start design exception process during PA&ED to obtain a decision early in PS&E phase.	Authur Ramirez	
1	Active		9/7/05  PID	Design	All utility easements required are not identified.	Utility easement requirements discovered in PS&E stage after utilities are verified and plotted on layout plans.	Schedule Cost	Low	High					Mitigation	PCR to increase cost and extend schedule.	Authur Ramirez/Lark Granger	
1	Active		9/14/05  PID	ProjectMgmt	Cost of project goes way up due to thicker structural section	Materials recommends thicker structural section.	Schedule	Moderate	High					Mitigation	PCR done to add money to project	Amy Donatello	
1	Active		9/14/05  PID	Proj Mgmt	STIP Funding isn't available.	STIP Projects are bidded much higher than engineer's estimate causing a lack of funds.	Schedule	Low	High					Mitigation	Conduct and analyze traffic studies to determine if the project can be classified as operational improvements and fund it in the SHOPP.	Amy Donatello	
1	Active		9/14/05  PID	Structures Design	Structures estimate increases dramatically	A change in the scope of structure work due to an Advanced Planning Study not being prepared for the PR.	Schedule Cost	Moderate	High					Avoidance	Be sure APS gets included in Project Report.	Arthur Ramirez	